

# INTERNATIONAL SEARCH REPORT

Interr. Application No  
PCT/03082

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 F02B19/12

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 F02B F02P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 193 417 A (SHOWALTER MERLE) 15 February 1974 (1974-02-15) figure 2C	1-3, 14
A	FR 2 781 840 A (UNIV ORLEANS) 4 February 2000 (2000-02-04) cited in the application page 4, line 18 - line 35; figures 1-6	1, 14, 15
A	US 4 926 818 A (OPPENHEIM A K ET AL) 22 May 1990 (1990-05-22) cited in the application column 2, line 51 -column 3, line 49	1, 14, 15
	-/-	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Date of the actual completion of the international search

2 March 2004

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10/03/2004

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Intern: PCT, Application No 3/03082

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR 2 810 692 A (PEUGEOT CITROEN AUTOMOBILES SA) 28 December 2001 (2001-12-28) cited in the application page 8, line 7 -page 9, line 5; figures 1-6C ---	1,14,15
A	US 5 947 076 A (HILTNER JOEL D ET AL) 7 September 1999 (1999-09-07) column 6, line 31 - line 47 ---	1,14,15
A	US 4 987 868 A (RICHARDSON RONALD D) 29 January 1991 (1991-01-29) column 6, line 18 - line 23 ---	1,14,15
A	US 5 105 780 A (RICHARDSON RONALD D) 21 April 1992 (1992-04-21) column 5, line 67 -column 6, line 7; figure 6 -----	1,14,15

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Intern. Application No.  
PCI/ [REDACTED] 3/03082

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
FR 2193417	A 15-02-1974	DE FR IT JP	2336608 A1 2193417 A5 997279 B 49080408 A	31-01-1974 15-02-1974 30-12-1975 02-08-1974
FR 2781840	A 04-02-2000	FR AT DE EP WO	2781840 A1 252200 T 69912135 D1 1102923 A1 0008317 A1	04-02-2000 15-11-2003 20-11-2003 30-05-2001 17-02-2000
US 4926818	A 22-05-1990	AU EP JP WO	5197690 A 0460077 A1 4506390 T 9010152 A1	26-09-1990 11-12-1991 05-11-1992 07-09-1990
FR 2810692	A 28-12-2001	FR	2810692 A1	28-12-2001
US 5947076	A 07-09-1999	WO	9954605 A1	28-10-1999
US 4987868	A 29-01-1991	CA DE	2015244 A1 9005250 U1	08-11-1990 06-09-1990
US 5105780	A 21-04-1992	CA DE DE GB WO	2065013 A1 4092668 C2 4092668 T 2251458 A ,B 9202718 A1	09-02-1992 01-08-2002 27-08-1992 08-07-1992 20-02-1992